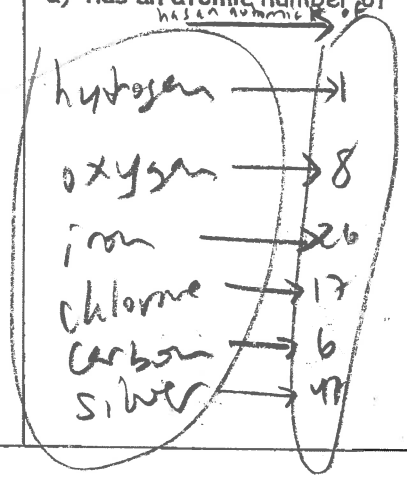
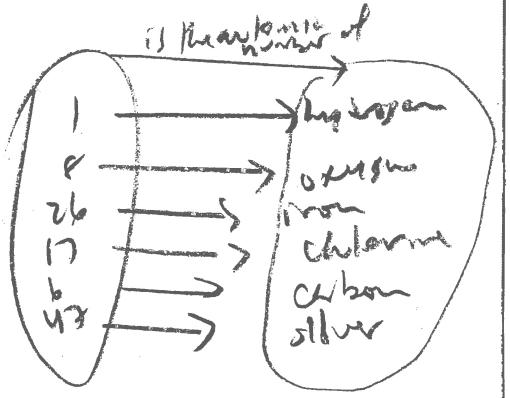
REL NS AND FUNCTIONS
CHAP 5.1 - 5.6A
IAPB2S

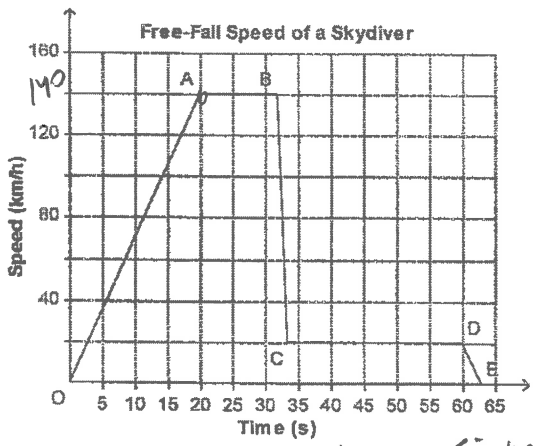
NAME:_____ **NAMES OF GROUP MEMBERS:**_____

Directions: Roll the dice. Whoever gets the highest number will begin. To start, the first person selects one of the five subtopics, then rolls one die to determine the number of statements he or she must make about the chosen subtopic. The other students should take notes as the first student shares information. EACH student completes the corresponding example. Compare your solutions as a group. The next student chooses the second subtopic and so on until all group members have had a turn and/or all the subtopics have been completed. This is a group activity - WORK TOGETHER!

SUBTOPIC	RELATED INFORMATION	EXAMPLE
REPRESENTING RELATIONS 5.1		1. Here is a list of some chemical elements and their atomic numbers: hydrogen (1), oxygen (8), iron (26), chlorine (17), carbon (6), silver (47) For each association described below, use these data to represent a relation in different ways. a) has an atomic number of  b) is the atomic number of 

SUBTOPIC	RELATED INFORMATION	EXAMPLE
PROPERTIES OF FUNCTIONS 5.2		2. The function $P(n) = 5n - 300$ describes the profit, P dollars, for a school dance when n students attend. a) Write the function as an equation in 2 variables. $P = 5n - 300$ b) Identify the independent and dependent variable. Justify your choice. profit ↙ ↘ number of students number affects profit c) Determine the value of P(150). What does this number represent? $P(150) = 5(150) - 300$ $= 750 - 300$ $P(150) = 450$ d) Determine the value of n when P(n) = 700. What does this represent? $700 = 5n - 300$ $+300 \quad +300$ $\frac{1000}{5} = \frac{5n}{5}$ $200 = n$

SUBTOPIC	RELATED INFORMATION	EXAMPLE
INTERPRETING AND SKETCHING GRAPHS 5.3		3. This graph shows the free-fall speed of a skydiver as a function of time. Describe what is happening for each segment of the graph.



$\overline{OA}$ accelerates (jumps, falls) constant acceleration (due to gravity)

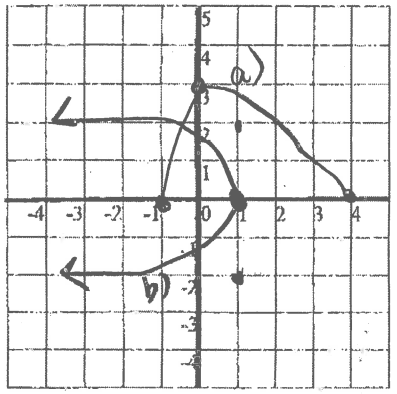
$\overline{AB}$ speed constant (steady) terminal velocity reached gravity = air resistance

$\overline{BC}$ speed rapidly decreases (decelerates) (almost no time) parachute opens

$\overline{CD}$ slower speed constant (steady) reach terminal velocity (with parachute) new terminal velocity reached

$\overline{DE}$ speed decreases until skydiver lands

RELATIONS AND FUNCTIONS
CHAPTER 5.1 - 5.6A
IAP825

SUBTOPIC	RELATED INFORMATION	EXAMPLE
GRAPHS AND RELATIONS OF FUNCTIONS 5.5		4. Sketch a graph of a function that has each domain and range. a) domain: $\{-1 \le x \le 4\}$; range: $\{0 \le y \le 3\}$ b) domain: $(-\infty, 1]$; range: $(-2, 2]$ 
PROPERTIES OF LINEAR RELATIONS 5.6 (A)		5. Which sets of ordered pairs represent linear relations? Explain your answers. a) $\{(1,5),(5,5),(9,5),(13,5)\}$ 0 0 0 4 4 4 Yes constant difference (horiz. line) b) $\{(-2,-3),(-1,-2),(2,1),(4,-3)\}$ +1 +1 −4 +1 +3 +2 no. difference not constant (difference from pair to pair)